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     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS,
     DDFB, DDFU, DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 09:17:01 ON 04 JUN
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FILE 'CAPLUS, BIOSIS, MEDLINE, SCISEARCH, EMBASE, BIOTECHNO, ESBIOBASE, CANCERLIT, USPATFULL, PASCAL, TOXCENTER, LIFESCI' ENTERED AT 09:19:29 ON 04 JUN 2004

L2	495	S L1 AND EUKARY?
L3	268	S L2 AND MEMBRANE
L4	34	S L2 AND (MEMBRANE ANCHO?)
L5	34	DUP REM L4 (0 DUPLICATES REMOVED)
L6	20	S L3 AND (FUCT-IV OR FUCT-V OR FUCT-VI OR FUCT-VII)
L7	20	DUP REM L6 (0 DUPLICATES REMOVED)
L8	10779	S FUCOSYLA?
L9	372	S L8 AND (FUCT)
L10	167	S L8 AND LARGE-SCALE
L11	133	DUP REM L10 (34 DUPLICATES REMOVED)
L12	70	S L11 AND EUKARYO?
L13	70	DUP REM L12 (0 DUPLICATES REMOVED)
L14	10582	S FUCOSYLAT?
L15	450	S L14 AND COMMERCIA?
L16	237	S L15 AND EUKARYO?
L17	237	DUP REM L16 (0 DUPLICATES REMOVED)

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L17 ANSWER 232 OF 237 USPATFULL on STN
ACCESSION NUMBER: 94:104487 USPATFULL
TITLE: Process for solid phase glycopeptide synthesis
INVENTOR(S): Wong, Chi-Huey, Rancho Sante Fe, CA, United States
Schuster, Matthias, San Diego, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5369017		19941129	
APPLICATION INFO.:	US 1994-191777		19940204	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lilling, Herbert J.
LEGAL REPRESENTATIVE: Welsh & Katz, Ltd.
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
LINE COUNT: 1509
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for the synthesis of a glycopeptide using a solid phase matrix is disclosed. The matrix is compatible with aqueous and organic solvents and is comprised of a silica-based solid support to which is linked a two-part spacer group having a chain length of about 12 to about 40 methylene groups. The first part of the spacer is covalently bonded to the silica-based support and has a length of about 3 to about 10 methylene groups. The second spacer part is covalently bonded to the first part of the spacer and comprises the distal end of the two part spacer. The second part is soluble as a free molecule in each of water, dimethylformamide and dichloromethane and has a terminal amine or hydroxyl group to which the C-terminal residue of the peptide portion of the glycopeptide chain is bonded. The chain of atoms connecting the desired glycopeptide to the solid phase matrix also includes a moiety having a selectively severable bond which on cleavage of that bond separates the matrix from whatever else is bonded to that moiety.

L2 ANSWER 491 OF 495 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 2003:9114 LIFESCI
TITLE: **Fucosyltransferases**, polynucleotides encoding **fucosyltransferases**, and transgenic mammal incorporating same
AUTHOR: Cummings, R.D.; DeBose-Boyd, R.A.; Nyame, A.K.
CORPORATE SOURCE: The University of Oklahoma
SOURCE: (20021008) . US Patent: 6461835; US CLASS: 435/69.1; 435/6; 435/252.3; 435/320.1; 435/325; 435/455; 435/471; 530/350; 530/412; 536/23.1; 536/23.2; 536/23.5.
DOCUMENT TYPE: Patent
FILE SEGMENT: W2
LANGUAGE: English
SUMMARY LANGUAGE: English
AB This invention is biological in nature and relates to the synthesis, structure and biological activities of novel alpha -1,2 and alpha -1,3 **fucosyltransferases** from Caenorhabditis elegans ("C. elegans"). The present invention also contemplates a transgenic non-human **eukaryotic** mammal whose germ cells and somatic cells incorporate cDNA sequences encoding one or more of the novel alpha -1,2 and alpha -1,3 **fucosyltransferases** from C. elegans, introduced into the non-human **eukaryotic** mammal, or an ancestor of the non-human **eukaryotic** mammal, at an embyonic stage.

L2 ANSWER 490 OF 495 TOXCENTER COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:8598 TOXCENTER
COPYRIGHT: Copyright 2004 ACS
DOCUMENT NUMBER: CA13606080826P
TITLE: Methods for producing modified glycoproteins in lower **eukaryotes** expressing mammalian genes for enzymes of glycosylation
AUTHOR(S): Gerngross, Tillman U.
CORPORATE SOURCE: ASSIGNEE: Glycofi, Inc.
PATENT INFORMATION: WO 2002000879 A2 3 Jan 2002
SOURCE: (2002) PCT Int. Appl., 51 pp.
CODEN: PIXXD2.
COUNTRY: UNITED STATES
DOCUMENT TYPE: Patent
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 2002:10683
LANGUAGE: English
ENTRY DATE: Entered STN: 20020122
Last Updated on STN: 20020702

AB Cell lines having genetically modified glycosylation pathways that allow them to carry out a sequence of enzymic reactions, which mimic the processing of glycoproteins in humans, have been developed. Recombinant proteins expressed in these engineered hosts yield glycoproteins more similar, if not substantially identical to their human counterparts. The lower **eukaryotes**, which ordinarily produce high-mannose containing N-glycans, including unicellular and multicellular fungi are modified to produce N-glycans such as Man5GlcNAc2 or other structures along human glycosylation pathways. This is achieved using a combination of engineering and/or selection of strains which: do not express certain enzymes, such as phospho mannosyltransferase, 1,6-mannosyltransferase, 1,3-mannosyltransferase and 1,2-mannosyltransferase, which create the undesirable complex structures characteristic of the fungal glycoproteins. The expressed exogenous enzymes selected either have optimal activity under the conditions present in the fungi where activity is desired, or which are targeted to an organelle where optimal activity is achieved. The said engineering and/or selection of strains combinations provide a method for genetically engineering **eukaryote** expressing multiple exogenous enzymes required to produce "human-like" glycoproteins.

L2 ANSWER 491 OF 495 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 2003:9114 LIFESCI
TITLE: **Fucosyltransferases**, polynucleotides encoding **fucosyltransferases**, and transgenic mammal incorporating same
AUTHOR: Cummings, R.D.; DeBose-Boyd, R.A.; Nyame, A.K.
CORPORATE SOURCE: The University of Oklahoma
SOURCE: (20021008) . US Patent: 6461835; US CLASS: 435/69.1; 435/6; 435/252.3; 435/320.1; 435/325; 435/455; 435/471; 530/350; 530/412; 536/23.1; 536/23.2; 536/23.5.
DOCUMENT TYPE: Patent
FILE SEGMENT: W2
LANGUAGE: English
SUMMARY LANGUAGE: English

AB This invention is biological in nature and relates to the synthesis, structure and biological activities of novel alpha -1,2 and alpha -1,3 **fucosyltransferases** from Caenorhabditis elegans ("C. elegans"). The present invention also contemplates a transgenic non-human **eukaryotic** mammal whose germ cells and somatic cells incorporate cDNA sequences encoding one or more of the novel alpha -1,2 and alpha -1,3 **fucosyltransferases** from C. elegans, introduced into the non-human **eukaryotic** mammal, or an ancestor of the non-human **eukaryotic** mammal, at an embyonic stage.

L2 ANSWER 492 OF 495 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 2001:109439 LIFESCI
TITLE: A Non-Golgi alpha 1,2-**Fucosyltransferase** That Modifies Skp1 in the Cytoplasm of Dictyostelium
AUTHOR: van der Wel, H.; Morris, H.R.; Panico, M.; Paxton, T.; North, S.J.; Dell, A.; Thomson, J.M.; West, C.M.
CORPORATE SOURCE: Department of Anatomy and Cell Biology, University of Florida College of Medicine, Gainesville, Florida 32610-0235; E-mail: westcm@college.med.ufl.edu
SOURCE: Journal of Biological Chemistry [J. Biol. Chem.], (20010907) vol. 276, no. 36, pp. 33952-33963.
ISSN: 0021-9258.
DOCUMENT TYPE: Journal
FILE SEGMENT: G; K
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Skp1 is a subunit of the SCF-E3 ubiquitin ligase that targets cell cycle and other regulatory factors for degradation. In Dictyostelium, Skp1 is modified by a pentasaccharide containing the type 1 blood group H trisaccharide at its core. To address how the third sugar, fucose alpha 1,2-linked to galactose, is attached, a proteomics strategy was applied to determine the primary structure of FT85, previously shown to copurify with the GDP-Fuc:Skp1 alpha 1,2-**fucosyltransferase**. Tryptic-generated peptides of FT85 were sequenced de novo using Q-TOF tandem mass spectrometry. Degenerate primers were used to amplify FT85 genomic DNA, which was further extended by a novel linker polymerase chain reaction method to yield an intronless open reading frame of 768 amino acids. Disruption of the FT85 gene by homologous recombination resulted in viable cells, which had altered light scattering properties as revealed by flow cytometry. FT85 was necessary and sufficient for Skp1 fucosylation, based on biochemical analysis of FT85 mutant cells and Escherichia coli that express FT85 recombinantly. FT85 lacks sequence motifs that characterize all other known alpha 1,2-**fucosyltransferases** and lacks the signal-anchor sequence that targets them to the secretory pathway. The C-terminal region of FT85 harbors motifs found in inverting Family 2 glycosyltransferase domains, and its expression in FT85 mutant cells restores **fucosyltransferase** activity toward a simple disaccharide substrate. Whereas most prokaryote and **eukaryote** Family 2 glycosyltransferases are membrane-bound and oriented toward the cytoplasm where they glycosylate lipid-linked or polysaccharide precursors prior to membrane translocation, the soluble, **eukaryotic** Skp1-**fucosyltransferase** modifies a protein that resides in the cytoplasm and nucleus.

L2 ANSWER 493 OF 495 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 97:114833 LIFESCI
TITLE: Cloning and heterologous expression of an alpha 1,3-**fucosyltransferase** gene from the gastric pathogen Helicobacter pylori
AUTHOR: Ge, Zhongming; Chan, N.W.C.; Palcic, M.M.; Taylor, D.E.*
CORPORATE SOURCE: Dep. Med. Microbiol. and Immun., 1-28 Med. Sci. Bldg., Univ. Alberta, Edmonton, Alberta, Canada T6G 2H7
SOURCE: J. BIOL. CHEM., (19970800) vol. 272, no. 34, pp. 21357-21363.
ISSN: 0021-9258.
DOCUMENT TYPE: Journal
FILE SEGMENT: N; G; J
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Helicobacter pylori is an important human pathogen which causes both gastric and duodenal ulcers and is also associated with gastric cancer and lymphoma. This microorganism has been shown to express cell surface glycoconjugates including Lewis X (Le super(x)) and Lewis Y. These bacterial oligosaccharides are structurally similar to tumor-associated

carbohydrate antigens found in mammals. In this study, we report the cloning of a novel alpha 1,3-**fucosyltransferase** gene (HpfucT) involved in the biosynthesis of Le super(x) within H. pylori. The deduced amino acid sequence of HpfucT consists of 478 residues with the calculated molecular mass of 56,194 daltons, which is approximately 100 amino acids longer than known mammalian alpha 1,3/1,4-**fucosyltransferases**. The similar to 52-kDa protein encoded by HpfucT was expressed in Escherichia coli CSRDE3 cells and gave rise to alpha 1,3-**fucosyltransferase** activity but neither alpha 1,4-**fucosyltransferase** nor alpha 1,2-**fucosyltransferase** activity as characterized by radiochemical assays and capillary zone electrophoresis. Truncation of the C-terminal 100 amino acids of HpFuc-T abolished the enzyme activity. An approximately 72-amino acid region of HpFuc-T exhibits significant sequence identity (40-45%) with the highly conserved C-terminal catalytic domain among known mammalian and chicken alpha 1,3-**fucosyltransferases**. These lines of evidence indicate that the HpFuc-T represents the bacterial alpha 1,3-**fucosyltransferase**. In addition, several structural features unique to HpFuc-T, including 10 direct repeats of seven amino acids and the lack of the transmembrane segment typical for known **eukaryotic** alpha 1,3-**fucosyltransferases**, were revealed. Notably, the repeat region contains a leucine zipper motif previously demonstrated to be responsible for dimerization of various basic region-leucine zipper proteins, suggesting that the HpFuc-T protein could form dimers.

L2 ANSWER 494 OF 495 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 97:73390 LIFESCI
TITLE: Bacterial nodulation protein NodZ is a chitin oligosaccharide **fucosyltransferase** which can also recognize related substrates of animal origin
AUTHOR: Quinto, C.; Wijfjes, A.H.M.; Bloemberg, G.V.; Blok-Tip, L.; Lopez-Lara, I.M.; Lugtenberg, B.J.J.; Thomas-Oates, J.E.; Spaink, H.P.*
CORPORATE SOURCE: Leiden Univ., Inst. Mol. Plant Sci., Wassenaarseweg 64, 2333 AL Leiden, The Netherlands
SOURCE: PROC. NATL. ACAD. SCI. USA, (1997) vol. 94, no. 9, pp. 4336-4341.
ISSN: 0027-8424.
DOCUMENT TYPE: Journal
FILE SEGMENT: J; W2
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The nodZ gene, which is present in various soil bacteria such as Bradyrhizobium japonicum, Azorhizobium caulinodans, and Rhizobium loti, is involved in the addition of a fucosyl residue to the reducing N-acetylglucosamine residue of lipochitin oligosaccharide (LCO) signal molecules. Using an Escherichia coli strain that produces large quantities of the NodZ protein of B. japonicum, we have purified the NodZ protein to homogeneity. The purified NodZ protein appears to be active in an in vitro transfucosylation assay in which GDP- beta -fucose and LCOs or chitin oligosaccharides are used as substrates. The products of the in vitro reaction using chitin oligosaccharides as substrate were studied by using mass spectrometry, linkage analysis, and composition analysis. The data show that one fucose residue is added to C6 of the reducing-terminal N-acetylglucosamine residue. The substrate specificity of NodZ protein was analyzed in further detail, using radiolabeled GDP- beta -fucose as the donor. The results show that chitin oligosaccharides are much better substrates than LCOs, suggesting that in Rhizobium NodZ fucosylates chitin oligosaccharides prior to their acylation. The free glycan core pentasaccharides of N-linked glycoproteins are also substrates for NodZ. Therefore, the NodZ enzyme seems to have an activity equivalent to that of the enzyme involved in the addition of the C6-linked fucosyl substituent in the glycan core of N-linked glycoproteins in **eukaryotes**. Oligosaccharides that contain only one N-acetylglucosamine at the reducing

terminus are also substrates for NodZ, although in this case very high concentrations of such oligosaccharides are needed. An example is the leukocyte antigen Lewis-X, which can be converted by NodZ to a novel fucosylated derivative that could be used for binding studies with E-selectin.

L2 ANSWER 495 OF 495 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 97:30617 LIFESCI
TITLE: Dictyostelium cytosolic **fucosyltransferase** synthesizes H type 1 trisaccharide in vitro
AUTHOR: Trinchera, M.; Bozzaro, S.
CORPORATE SOURCE: Dep. Biochem., Univ. Pavia, via Taramelli 3B, 27100 Pavia, Italy
SOURCE: FEBS LETT., (1996) vol. 395, no. 1, pp. 68-72.
ISSN: 0014-5793.
DOCUMENT TYPE: Journal
FILE SEGMENT: K
LANGUAGE: English
SUMMARY LANGUAGE: English

AB A **fucosyltransferase** activity has been detected using lacto-N-biose I as acceptor in the lower **eukaryote** Dictyostelium discoideum. This transferase requires divalent cations and is inhibited by N-ethylmaleimide and detergent treatment. Apparent calculated K sub(m) values for GDP-Fuc and lacto-N-biose I are 1.27 mu M and 2.80 mM, respectively. The activity is quantitatively recovered in the supernatant after centrifugation at 100 000 x g for 1 h. The reaction product, as determined by gel permeation chromatography, sensitivity to fucosidases, and analysis of partially methylated derivatives, is Fuc alpha 1-2Gal beta 1-3GlcNAc (H type 1 trisaccharide).

Day : Friday
Date: 6/4/2004
Time: 10:45:22

PALM INTRANET

nventor Name Search Result

Your Search was:

ast Name = BAYER
irst Name = ROBERT J

Application#	Patent#	Status	Date Filed	Title	Inventor Name 6
60001035	Not Issued	159	07/11/1995	ENZYMATIC SYNTHESIS OF OLIGOSACCHARIDES	BAYER , ROBERT J.
09007741	6399336	150	01/15/1998	PRACTICAL IN VITRO SIALYLATION OF RECOMBINANT GLYCOPROTEINS	BAYER , ROBERT J.
08628545	5922577	150	04/10/1996	ENZYMATIC SYNTHESIS OF GLYCOSIDIC LINKAGES	BAYER , ROBERT J.
08628543	6030815	150	04/10/1996	ENZYMATIC SYNTHESIS OF OLIGOSACCHARIDES	BAYER , ROBERT J.
08419669	5728554	150	04/11/1995	IMPROVED ENZYMATIC SYNTHESIS OF GLYCOSIDIC LINKAGES	BAYER , ROBERT J.
08419659	5876980	150	04/11/1995	ENZYMATIC SYNTHESIS OF OLIGOSACCHARIDES	BAYER , ROBERT J.

Inventor Search Completed: No Records to Display.

Search Another: Inventor Last Name: Bayer First Name: Robert J Search

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